



LAHIVE
&
COCKFIELD
L L P

COUNSELLORS AT LAW
28 STATE STREET
BOSTON, MASSACHUSETTS 02109-1784
TELEPHONE (617) 227-7400
FAX (617) 742-4214
lc@lahive.com

JOHN A. LAHIVE, JR. (1928-1997)
THOMAS V. SMURZYNSKI
RALPH A. LOREN
GIULIO A. DeCONTI, JR.
ANN LAMPORT HAMMITTE
ELIZABETH A. HANLEY
AMY BAKER MANDRAGOURAS
ANTHONY A. LAURENTANO
KEVIN J. CANNING
JANE E. REMILLARD
DeANN FORAN SMITH
PETER C. LAURO
JEANNE M. DIGIORGIO
DEBRA J. MILASINCIC, Ph.D.
DAVID J. RUKERS
DAVID R. BURNS
JOHN S. CURRAN
SEAN D. DETWEILER

CYNTHIA L. KA [REDACTED]
MEGAN E. WILLIAMS, Ph.D.
RICA NAND
MICHAEL PHILLIPS *
LISA M. DIROCCO
HATHAWAY P. RUSSELL **
MARIA LACOTRIPE ZACHARAKIS, Ph.D.
PETER A. DIMATTIA
VINCENT P. LOCCISANO
MERIDETH C. ARNOLD

SENIOR COUNSEL
JAMES E. COCKFIELD

OF COUNSEL
JEREMIAH LYNCH
WILLIAM A. SCOFIELD, JR.
SIBLEY P. REPPERT

PATENT AGENTS
THEODORE R. WEST
SHAYNE Y. HUFF, Ph.D.
DANIEL B. KO

TECHNICAL SPECIALISTS
CYNTHIA M. SOROS
PETER W. DINI, Ph.D.
EUIHOON LEE
JENNIFER K. ROSENFIELD
ALLAN TAMESHTIT, Ph.D.
CATHERINE E. MCPHERSON
ERIC F. WAGNER, Ph.D.
SHAHID HASAN, Ph.D.
JACOB G. WEINTRAUB
JONATHAN M. SPARKS, Ph.D.
CRISTIN E. HOWLEY, Ph.D.

* Admitted in NY only
** Admitted in TX only

PT#5

April 3, 2002

Commissioner for Patents
Washington, D.C. 20231

Re: U.S. Patent Application No.: 10/002775
NOVEL B7-4 MOLECULES AND USES THEREFOR
Inventors: Freeman, Gordon et al.
Filed: November 2, 2001
Our Ref. No.: GNN-004ADV

RECEIVED
APR 16 2002
TECH CENTER 1600/2900

Dear Sir:

I enclose herewith for filing in the above-identified application the following:

1. Information Disclosure Statement;
2. PTO Form 1449; and
3. A Return Postcard.

No additional costs are believed to be due in connection with the filing of this Information Disclosure Statement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080. For this purpose, a duplicate of this sheet is attached.

I hereby certify that this correspondence is deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on:

April 3, 2002

Date

Megan E. Williams, Esq., Reg. No. 43,270

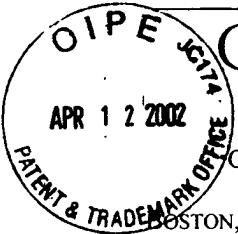
Respectfully submitted,
LAHIVE & COCKFIELD, LLP

Megan E. Williams, Esq.
Registration No. 43,270
Attorney for Applicants

LAHIVE

&
COCKFIELD

L L P



COUNSELLORS AT LAW
28 STATE STREET
BOSTON, MASSACHUSETTS 02109-1784
TELEPHONE (617) 227-7400
FAX (617) 742-4214
lc@lahive.com

JOHN A. LAHIVE, JR. (1928-1997)
THOMAS V. SMURZYNKI
RALPH A. LOREN
GIULIO A. DeCONTI, JR.
ANN LAMPORT HAMMITTE
ELIZABETH A. HANLEY
AMY BAKER MANDRAGOURAS
ANTHONY A. LAURENTANO
KEVIN J. CANNING
JANE E. REMILLARD
DeANN FORAN SMITH
PETER C. LAURO
JEANNE M. DIGIORGIO
DEBRA J. MILASINCIC, Ph.D.
DAVID J. RIKKERS
DAVID R. BURNS
JOHN S. CURRAN
SEAN D. DETWEILER

CYNTHIA L. KANI
MEGAN E. WILLIAMS, Ph.D.
RICHA NAND
MICHAEL PHILLIPS *
LISA M. DIROCCO
HATHAWAY P. RUSSELL **
MARIA LACOTRIPE ZACHARAKIS, Ph.D.
PETER A. DiMATTIA
VINCENT P. LOCCISANO
MERIDETH C. ARNOLD

SENIOR COUNSEL
JAMES E. COCKFIELD

PATENT AGENTS
THEODORE R. WEST
SHAYNE Y. HUFF, Ph.D.
DANIEL B. KO

TECHNICAL SPECIALISTS
CYNTHIA M. SOROS
PETER W. DINI, Ph.D.
EUIHOON LEE
JENNIFER K. ROSENFIELD
ALLAN TAMESHTIT, Ph.D.
CATHERINE E. McPHERSON
ERIC F. WAGNER, Ph.D.
SHAHID HASAN, Ph.D.
JACOB G. WEINTRAUB
JONATHAN M. SPARKS, Ph.D.
CRISTIN E. HOWLEY, Ph.D.

* Admitted in NY only

** Admitted in TX only

April 3, 2002

Commissioner for Patents
Washington, D.C. 20231

Re: U.S. Patent Application No.: 10/002775
NOVEL B7-4 MOLECULES AND USES THEREFOR
Inventors: Freeman, Gordon et al.
Filed: November 2, 2001
Our Ref. No.: GNN-004ADV

Dear Sir:

I enclose herewith for filing in the above-identified application the following:

1. Information Disclosure Statement;
2. PTO Form 1449; and
3. A Return Postcard.

No additional costs are believed to be due in connection with the filing of this Information Disclosure Statement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080. For this purpose, a duplicate of this sheet is attached.

I hereby certify that this correspondence is deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on:

April 3, 2002

Date

Megan E. Williams, Esq., Reg. No. 43,270

Respectfully submitted,
LAHIVE & COCKFIELD, LLP

Megan E. Williams, Esq.
Registration No. 43,270
Attorney for Applicants

COPY RECEIVED

APR 16 2002

TECH CENTER 1600/2900



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

APR 16 2002

TECH CENTER 1600/2900

In re the application of: Freeman, Gordon et al.

Serial No.: 10/002775

Filed: November 2, 2001

For: NOVEL B7-4 MOLECULES AND USES
THEREFOR

Attorney Docket No.: GNN-004ADV

Group Art Unit: 1644

Examiner: J. H. Roark

Commissioner for Patents
Washington, D.C. 20231

Certificate of First Class Mailing (37 CFR §1.8(a))

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on the date set forth below.

April 3, 2002

Date of Signature and of Mail Deposit

By:

A handwritten signature in black ink, appearing to read "Megan E. Williams".

Megan E. Williams, Esq.

Reg. No.: 43,270

Attorney for Applicants

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

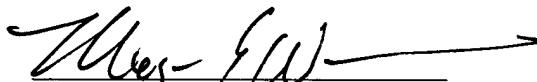
For the Examiner's convenience in reviewing this divisional application, Applicants submit a consolidated PTO Form 1449, listing all references cited during the prosecution of the parent application. The present application is a divisional of U.S. Serial No. 09/644,934, filed August 23, 2000 (Atty. Docket No. GNN-004A). All references listed on the enclosed PTO Form 1449 have been previously cited by or submitted to the Office in the prior

application, and, in accordance with 37 CFR §1.98(d), copies of the references are not enclosed but will be provided upon request.

This statement is not to be interpreted as a representation that the cited publications are material, that an exhaustive search has been conducted, or that no other relevant information exists. Nor shall the citation of any publication herein be construed *per se* as a representation that such publication is prior art. Moreover, Applicants understand that the Examiner will make an independent evaluation of the cited publications.

No additional costs are believed to be due in connection with the filing of this Information Disclosure Statement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080.

Respectfully submitted,
LAHIVE & COCKFIELD, LLP



Megan E. Williams, Esq.
Registration No.: 43,270
Attorney for Applicants

28 State Street
Boston, MA 02109
(617) 227-7400

Date: April 3, 2002

AEM/MEW/SYH/ham

| | | | |
|--|---|--|---|
| APPLICANT FACSIMILE OF FORM PTO-1449 REV 7-80 | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | ATTY DOCKET NO GNN-004ADV | SERIAL NO. 10/002775 |
| LIST OF PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary) | | APPLICANT Freeman, Gordon et al. | FILING DATE November 11, 2001 |
| | | GROUP 1644 | RECEIVED U.S. PATENT AND TRADEMARK OFFICE NOV 12 2001 |

APR 1 2 2002

A circular stamp on the left contains the words "PATENT & TRADEMARK" in a curved, bold font. To its right is a rectangular stamp with the words "EXAMINER INITIATIVE" printed vertically.

RECEIVED

U.S. PATENT DOCUMENTS

| | | | | | | | |
|------------------|--|-----------------|------|------|-------|----------|----------------------------|
| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| | | | | | | | |

FOREIGN PATENT DOCUMENTS

| PATENT DOCUMENTS | | | | | | | |
|------------------|----|-----------------|-------|---------|-------|----------|-----------------------|
| | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
| | A1 | WO 95/03408 | 02/95 | PCT | | | |

OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

| | |
|-----|---|
| A2 | Attwood, Teresa K. "The Babel of Bioinformatics" <i>Science</i> 290(5491):471-473 (Oct. 27, 2000); |
| A3 | Coyle, Anthony J. et al. "The expanding B7 superfamily: Increasing complexity in costimulatory signals regulating T cell function" <i>Nature Immunology</i> 2(3):203-209 (March 2001); |
| A4 | Dong, Haidong et al. Genbank Acession No. AF177937 Homo sapiens B7-H1 mRNA, complete cds (January 19, 2000); |
| A5 | Dong, Haidong et al. "B7-H1, a third member of the B7 family, co-stimulates T-cell proliferation and interleukin-10 secretion" <i>Nature Medicine</i> 5(12):1365-1369 (1999); |
| A6 | Freeman, Gordon J. et al. "Engagement of the PD-1 Immunoinhibitory Receptor by a Novel B7 Family Member Leads to Negative Regulation of Lymphocyte Activation" <i>Journal of Experimental Medicine</i> 192(7):1027-1034 (1998); |
| A7 | Henry, Joelle et al. "Structure and evolution of the extended B7 family" <i>Immunology Today</i> 20(6):285-288 (1999); |
| A8 | Skolnick, Jeffrey et al. "From genes to protein structure and function: novel applications of computational approaches in the genomic era" <i>Trends in Biotechnology</i> 18(1):34-39 (Jan. 2000); |
| A9 | <u>Steadman's Medical Dictionary</u> , 24 th edition, 1982 Williams & Wilkins, Baltimore, MD, USA, p. 42; |
| A10 | Voet, Donald et al. <u>Biochemistry</u> Vol. 1, 1990 John Wiley & Sons, pp. 126-128, 230; |
| A11 | Genbank Acession No. AA292201 zt50f01.r1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:725785 5', mRNA sequence (April 21, 1997); |
| A12 | Genbank Acession No. AA399416 zt50f01.s1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:725785 3', mRNA sequence (April 29, 1997); |
| A13 | Genbank Acession No. Q13410 Butyrophilin precursor (BT) (November 1, 1997). |
| | |
| | |
| | |
| | |

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.